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ARTICLE 1.

EXPERIMENTS WITH IODINE,

AS AN ANIDOTE TO THE VENOM OF SERPENTS, AND CERTAIN OTHER ANIMAL POISONS.

BY B. WOODWARD, M. D., GALESBURG, ILL.

The paper Dr. S. W. Weil Mitchell, read before the Academy of Natural Sciences, at Philadelphia, October 16th, takes the ground that, "there appears to be no absolute antidote to the virus of the rattlesnake."

If by an "absolute antidote" the Doctor means, a substance which when brought in contact with the poison shall so neutralize it as to render it harmless, I must beg leave to differ from him. If he means "no substance which shall save the patient in every case," he certainly is correct. The ferri oxydum hydratum is an absolute antidote to arsenic if administered quickly and in sufficient quantities, forming as it does an insoluble arseniate of iron. Chalk is, in the same way, an antidote to oxalic acid, but the patients may be killed by

these poisons; absorption having taken place to a great extent before the antidotes were administered. So with the rattlesnake. Iodine, as I shall endeavor to show, is a perfect antidote to it; still it may be that the patient may die from its effects, in consequence of the remedy not being used soon enough, or in sufficient quantities. In 1846, Dr. Whitmire first brought before the profession the value of Iodine as an antidote to the rattlesnake. In 1848 Dr. Harwood, through the *N. W. Med. and Surg. Journal* claims also to have used the remedy. But it was not until the publication of Prof. Daniel Brainard's experiments before the Academy of Sciences, that the true antidotal powers of iodine were established. These experiments were with curare, and the virus of the rattlesnake. It may be objected, that curare is a vegetable and not an animal poison. Though this is the view Dunglison takes of it, naturalists are divided on the question; some claiming it to be of animal origin, and others of vegetable. Be this as it may, those experiments fully demonstrated the power of iodine over carare.

In the winter of 1856 I had the pleasure of witnessing the same series of experiments, by Dr. Brainard.

In the July No. of the *Northwestern Medical and Surgical Journal*, I reported a case of successful treatment of rattlesnake bite by iodine. In that case the child, 12 years old. had been bitten several hours before I saw her, in the ankle. When I saw her the whole limb and side was very much swollen and discolored; tongue swelled; pulse 140; constant vomiting of green slime, abdomen tympanitic, she was delirious. She was first treated with morphia in ½ gr. doses, to allay the vomiting and quiet the brain. The limb and every part of the side was scarified and dotted with tr. iodine and as soon as the stomach would bear it, she took a teaspoonful every hour, of solut. of iod. potassa, 20 grs. to the ounce of water. The dotting with the iodine was repeated every six hours. Under this treatment she rapidly recovered.

In order to test the value of iodine in neutralizing animal

poisons, I have, at different times, instituted experiments to that end.

The first series was in 1855, with the virus of the rattlesnake. Having procured a fine specimen of the massassauger, or black rattlesnake, I carefully dissected out the poison sacs at the roots of the fangs.

1st. With a needle dipped in the poison, I pricked the ear of a kitten about two months old. The animal immediately gave evidence of great pain, the head swelled, and in two hours she was dead.

2d. A drop of the poison was mixed, on a piece of glass, with a drop of tinc. iodine U. S. P. With this, another kitten was pricked twice through the ear. She gave no evidence of pain except scratching her ear for a minute or two. In half an hour she was again pricked in the ear with the clear poison. Almost instantly she cried out with pain. I then scraped the surface of the wounded ear, and poured on tr. iodine. The pain seemed last but a short time; the ear swelled slightly, but in two hours the cat was well, except that she had a sore ear.

3d. Another cat was wounded in the foot with a knife armed with the poison, and left for fifteen minutes. At the end of that time she was in agony. The iodine was poured on the foot and leg, but she died in an hour and a half.

4th. A kitten was wounded on the inside of the thigh, with a poisoned knife, and instantly tr. iodine was poured on. She gave no evidence of poisoning, though she was lame for two days.

5th. With a fine syringe I injected one drop of the virus which had been mixed with two drops of tr. iodine, under the skin of the leg of another cat. She was soon in great pain, and the limb became swelled. I scarified the limb and poured on tr. iodine; though she suffered for some hours she recovered.

Virus of Spiders.—I took a large yellow spider and made him bite my arm. There was instantly great pain. With a lancet I scarified around the wound and poured on tr. iodine. The pain soon abated. With a pair of forceps I drew out the

poisonous fangs of the insect, and with one in its natural state, pricked my arm; there was great pain for a few minutes when I rubbed the part well with tr. iodine, and the pain abated. I now dipped the other fang in the tr. and pricked myself with it. There was neither pain nor swelling.

By repeated experiments I have found that the action of vaccine virus may be arrested twenty-four hours after its insertion, by the application of tinct. iodine; and that the virus will not act at all, if mixed with the iodine. Bosquet found that chloride of soda would not destroy the vaccine virus.

So far as stimulants and alkalis are of service, my own experience has not been in their favor, though it is true stimulants may be of use in sustaining the patient under the prostrating effects of the poison.

During a twelve years' residence on the prairies of Illinois, where these serpents are plentiful, it has frequently occurred to me to be called to treat their bites. In no case has it proved fatal where the iodine has been faithfully used locally and constitutionally.

I think I am correct in saying that in the published treatment of Dr. Wainwright, of New York, who died from the effects of the bite of a crotalus, iodine was not alluded to.

There is one other form of animal poison in which I have frequently (at least four times) found the iodine a perfect antidote. I refer to septic poison from a dead body. In one of these cases I was removing the abdominal viscera from the body a woman who had died of puerperal peritonitis, when I cut my hand with the scalpel. My friend and relative, Dr. B. Durham, of Chicago, immediately poured on some tr. of iodine, and I got no harm.

In July, 1858, while making a post mortem examination of the body of a man who had died twenty-four hours previously and which was in a rapid state of decomposition. My then partner, Dr. McCurdy, accidentally pricked my hand with a tenaculum which we were using. Though I sucked the well at the time, in about twelve hours my hand became very painful, the pain passing up my arm. Dr. McCurdy scarified the arm well in the track of the painful lymphatics, and

then dotted with saturated tr. of iodine and took 10 grs. of iod. potassa every four hours till I had taken 70 grains, the arm was no pain or trouble. With regard to syphilitic virus I have found the saturated tr. of iodine to act promptly in arresting the disease, by bathing a *fresh* chancre with it, but where there was the least *constitutional* evidence of the disease, as bubo, no good results were obtained. I prefer the iodine treatment of recent chancre to nit. silver as the fluid penetrates all the tissues in the region of the sore.

Since the publication of Dr. Brainard's paper in the *Gazette des Hopitaux*, and its re-publication in this country, I have seen no record of any experiments going to throw doubt on the question. From which I have tested of the efficacy of the iodine treatment, I believe others will be equally well satisfied if they will give it a fair trial.

ARTICLE 2.

CASES SUCCESSFULLY TREATED WITH TINCTURE OF IODINE.

BY E. NICHOLS, STUDENT IN THE RUSH MEDICAL COLLEGE.

I have been led to make the following remarks from the numerous cases of caries I have seen in a short time, since my attention has been directed to it, and for the reason that I have seen no mention made, in any of the works I have read on surgery, of the remedy used successfully in all the cases in which I have seen it tried.

I shall not enter into discussions on the nature of disease; as to whether it is produced by an unhealthy condition of the system, external local injuries, or with no *perceptible cause;* but at once give the case I am most acquainted with, it having occurred in my own person.

At the age of sixteen I was taken with a dull, sometimes darting, aching pain in the region of the os calsis, which pain I attributed to the irritation of a boot crowding painfully upon that region. For a number of days the pain increased, with no swelling of the soft parts, but a slight reddening of the skin. A physician was consulted, and blisters applied to each side of the heel, with no other effect than producing more inflammation, and soon enlargement of the bone took place, and swelling of the soft parts began, which extended from the extremity of the foot to the knee joint. Poultices were now employed, and abscesses formed, which discharged considerable unhealthy pus.

The physician now continuing a course of treatment which consisted of lancing and applying simple cerate, as most patients do under unsuccessful treatment, and at the end of six or eight weeks I placed myself under the care of another physician, who cleared my foot, to some extent, of pus, by lancing and pressure. The proud flesh was taken out by means of scissors and nitrate of silver. Inflammation was removed by the use of acetate of lead and sal ammoniac, of each about half an ounce, dissolved in one pint of cold water, and applied by saturating a cloth and laying it upon the inflamed parts. This was removed as often as the cloth became dry, and was very effectual in removing the inflammation. Citrine ointment was applied over the abscesses, and when the inflammation had somewhat subsided, tincture of iodine was used on the surface in the immediate region of the disease, and inserted into the abscesses. This was applied about once a day, with a camel's hair pencil. When the acute form of the disease had nearly passed, injection of the tincture of iodine were made into the abscesses with a small syringe. These injections were so complete as to pass from an abscess on one side of the heel to an abscess on the opposite side.

Before these injections were made, the bone was examined from time to time with a probe, and though it could be passed in various directions into the substance of the bone, no loose pieces could be detected. But very soon after the injections

were made, pieces of bone were found in the abscesses and removed, to the number of twenty, varying in size from a line to an inch in length, and from half a line to three-quarters of an inch in breadth. They were irregular in shape, and often very porous, and appeared to be disorganized. Injections were continuous till no pieces of loosened bone could be detected, and all bony surfaces touched with the probe seemed firm and healthy, when it was discontinued, and fungous granulations being kept out of the abscesses, they were allowed to heal slowly.

This treatment was commenced in March, and in the ensuing October the disease was perfectly cured, and the foot again became quite serviceable. It is now a good foot, and "keeps pace" with the other, which is and always has been perfectly well.

In this connection I will mention that the dorsal surface of the scaphoid bone was slightly affected, but arrested by a few injections of iodine. Only a few scales of bone were taken from it.

After this there was the appearance of caries on the tibia of the opposite limb, near the insertion of the sartorius muscle, which, as soon as an abscess was formed, I thoroughly injected with the tincture of iodine, and succeeded in removing a small scale of bone, when it immediately healed. This might have been necrosis; but no scale of bone was detected till after the injection, and the scale seemed disorganized.

During this time all constitutional treatment was in accordance with that laid down in the books.

Since that time I have witnessed similar cases cured by a like treatment; but all happened in short bones. I have not witnessed a trial of this treatment in any long bones. I have also seen cases treated according to rules laid down in the works on surgery, but with altogether less success.

Now, these questions are in my mind: Why is not this treatment adopted? Is is because the profession have not tried it, or has it been tried and proved inadequate? I have not the means of investigating the latter; but have seen no mention of this treatment in any works I have read, and never

heard it mentioned by a surgical teacher. Does tincture of iodine produce any bad effect thus applied? I have seen none.

How does the tincture of iodine prove beneficial? Is it by arresting the progress of the disease, as in the case of erysipelas, where the diseased portion is surrounded with it, and does it cause exfoliation of the bone as it does desduamation of the skin?

I have written this because the above are questions I am not able to answer, and I have not the means of investigating the matter as I should desire. If it is an adequate treatment I think it should be adopted, as it less painful, and I think far less dangerous than the various operations usually adopted in the cure of this disease.

ARTICLE 3.

DIPHTHERIA.

BY R. B. RAY, M. D., LA PLATA, MO.

To the Editors of the Chicago Medical Journal.

GENTLEMEN:—As there has been an affection of the throat prevailing in this locality the past summer, it may be of some interest to your many readers, to give a brief sketch of a case which came under my care in the early part of September. As this case will give you a knowledge of this epidemic which has prevailed to so fearful extent, I will give some of the most prominent symptoms, diagnosis, arognosis and treatment, as well as my memory serves me. I was called Sunday, September 2d; I found patient, a boy, six years of age, breathing very laboriously, with full pulse, but moderately slow, some fever, surface hotter than normal. Upon an examination of the throat, I found the fauces much more red than natural, the uvula somewhat elongated, the tonsils swollen,

as to those small white aphthous appearing specks seen in diphtheria, they were not well marked, but there was sufficient exudation to produce a stringy tenacious mass which is not unlike that found in pseudo-membraneous croup. I would remark here that the further development of the case exhibited a considerable quantity of yellowish pus tinged with blood; the cough was very troublesome, and was, of course, of hollow sound; dyspnœa, dysphagia, and aphnia were present; as to other symptoms, there were some present of minor import. As to the diagnosis, our practitioners differ much. Some call this disease ulcerated sore throat pseudo-membraneous croup, laryngitis, and so on. From what I have seen of those cases I shall be compelled to throw my opinion in favor of diphtheria. But without stopping to argue upon the diagnosis, I leave this part of my subject with my readers and pass to the treatment. The first I did was to give an emetic to free emesis, composed of ipecacuanha and sulph. zinc; embrocations to throat freely. The ipecac was continued just enough to nauseate and relax, while Dover's rondes, were given to procure rest. As a local application I applied tr. diluted muriatic acid, that is diluted with water half and half directly to the parts involved. This constituted the principal part of the treatment.

On the same day Dr. Ellis was called in consultation he endorsed the treatment already mentioned, therefore but little change was made. The next Monday my patient was worse, if possible, than the day previous. At this time all hope of recovery was lost, by ordinary medication, and explained fully to the parents, whereupon Dr. Still was summoned as additional council.

After consulting in the case and weighing the chances for and against tracheotomy, we came to the conclusion that there was no hope of recovery without the operation and but little with it, stating fully to the parents its dangers and the small chance of success, and that there was no chance of recovery without it. They chose the operation. It was performed by Dr. Still, assisted by Dr. Ellis and myself. The incision was made below the thyroid cartilage; the first incision through

the skin brought into view and divided the superficial farcia; the thyroid gland was then put aside, when the cutting part of the operation was completed by severing the rings of the trachea. No blood was lost of any consequence; what was was readily controlled by hemo-statics; the canula was introduced by a little manipulation, and the operation bid fair to succeed up to 12 o'clock, Monday night, when the patient expired.

Directions were given to keep the canula open, but on removing it after death it was found closed up. Yet to my mind, this case, in all probability, would have been fatal.

ARTICLE 4.

CASE OF TETANUS FROM VERY SLIGHT INJURY.

BY D. W. HAND, M. D., ST. PAUL, MIN.

November 2d, 1860, I was called, at 3 o'clock in the morning, to see Mrs. O'Bryan, living in West St. Paul, on the low bottom land bordering on the river.

Mrs. O'B. is a strong, hearty woman, aged 22, having two children, and now advanced three months in pregnancy. On Saturday, October 27th, as she was splitting kindling wood, a small piece flew up and hit her over the right eye, hurting her considerably at the time; but as it only bled a few drops, and seemed a mere scratch, she put on a piece of sticking plaster, and thought no more of it. The weather was very wet at the time, and being out of doors frequently, she supposes she took cold, for in a day or two the wound became swelled and somewhat painful. She then began to have pain in the limbs, and aching between her shoulders, but did not think herself sick until the morning of November first, when she found on awakening, a slight stiffness of her jaws, and

considerable difficulty in swallowing. She also noticed that she could not close her right eye; even while sleeping it remained partially open. All that day she lay in bed, without eating or drinking anything. She passed much urine, and toward evening she had a very copious evacuation from the bowels. During the early part of the night she slept some, and noticed that several times during her sleep she bit her tongue.

About 2 o'clock she was awakened by a sensation of choking, and I was then sent for. I found her lying very comfortably on her back, her mouth drawn a little to one side, and the right upper eye-lid drawn up, so as to give her a very sinister expression. He skin was moist, but a little cold, and her pulse 77. She talked to me, through her teeth, in a voice composed and natural; complained of pain between the shoulders, and of thick phlegm in her throat, which she could neither get up or down. There was no stiffness of the neck, no disturbance of the stomach, nor had the attendant noticed anything like spasms.

The wound over her eye, which appeared to be a small punctured one, had healed, but the cicatrix was depressed and very red, and immediately above it was a small soft tumor. The massster muscles were firmly contracted; they felt hard, but were not tender to the touch. By strong efforts she could open the jaws enough to allow me to pass the handle ot a teaspoon between between the truth. I gave her a tea-spoonful of vinegar and water which seemed to clear her throat, and she then swallowed without much difficulty half a grain of morphine and an eighth of a grain of tartarized antimony in a little water.

I applied a warm poultice to the wound and also to the jaws, and directed another morphine powder to be given at 8 o'cloek; and every two hours a mixture of ext. belladonna and ext. valerian, and, finding the patient inclined to sleep, left her, at 5 A. M.

At 1 o'clock P. M. I saw her again. Found her with her head thrown back, and considerable difficulty of breathing. She was sweating freely, and her skin was warm; pulse 80,

full and strong; said she felt sick at her stomach, but could not vomit; neither could she swallow a drop of anything.

She had taken the morphine powder at 8 o'clock, and after it one dose of the mixture, but could swallow no more after that. In attempting to take a little water for me, she had a partial convulsion; throwing her head back, and raising her chest and abdomen. It lasted but a few seconds, and she did not lose consciousness. Her nurse then said she had had five such spells during the forenoon.

Chloroform applied to the masseter muscles relaxed them somewhat, but did not relieve the choking in the throat. I then caused her to inhale the chloroform, and while the muscles were relaxed by it, put ten grains of calomel, with a little water, in her mouth. It was all thrown out at the corner of the mouth in a few minutes; she could swallow nothing. She had no head-ache, and the pain in her back was relieved. Bowels had not been opened, or urine passed since my former visit. Ordered a purgative enema, to be followed every two hours by an injection of assafœtida and pulv. ipecac ää 3 p. ℥ iv warm water.

At 2 o'clock the next morning, November 2d, I was called in haste to see her; found she had just had a very severe convulsion, lasting at least five minutes. From the account of her attendants, I think she had a complete convulsion, but of shorter duration about an hour before. She was now sweating profusely and very nervous, but answered my questions rationally, said she had passed urine several times with difficulty, that she felt no pain at the moment but thought she should choke; that she could not bear the poultice on the wound as it hurt her, and that all around the swelling there was a continual itching. The tumor had increased since my last visit, and looked much inflamed. She would not let me touch it. I administered chloroform and while she was under its influence I passed a lancet through the tumor. Just beneath the skin appeared a mass of clotted blood and from beneath it came two or three drachms of venous blood. A few drops of trickling down her cheek, as the effect of the

chloroform passed away, she was immediately seized with a terrible spasm; became black in the face and frothed at the mouth which she kept constantly moving; eyes wide open and with the pupils much dilated, became instantly dry and glazed; her body was bent backward on the instant but quickly relaxed so she laid nearly flat on the bed. As this paroxysm seemed passing off another came on, throwing her body again into the backward curvature. This paroxysm also gradually relaxed, but before it passed away and in about fifteen minutes from the first seizure another, and more severe one came on; and now her pulse, which had kept full and regular all this time, becoming slow during the paroxysms, and perceptibly rising as they relaxed, suddenly stopped.

Miscellaneous.

EXTRACTS FROM AN ESSAY ON DIPHTHERIA AND DIPHTHERITIC AFFECTIONS.

BY A. JACOBI, M. D.

(Concluded.)

Our knowledge of the pathological anatomy of diphtheria is very defective, especially in regard to such alterations as take place in the blood and general system. The microscopical appearance of the pseudo-membranes has been described in our remarks on the nature of the disease; oidium albicans, and leptothrix buccalis have been found by some writers, and have even been considered by them to be the cause of contagious transmission of the affection; we have not, however, been able to identify them in those few microscopical exami-

nations we have made; and we believe that those microscopical fungi are but accidental occurrences in the exudation. We have further described the appearance of the mucous membranes as to whether the exudation was but a covering to its substance, or imbedded in its tissue and leaving more or less deep ulcerations. Pneumonia, bronchitis, and the results of complications of diphtheria were not unfrequent in those fifteen or sixteen cases where we were allowed to make a post mortem examination. The skin would sometimes present the appearance of furfuraceous desquamation on some parts of the body, as it will be found in a large number of diseases attended by high fever and rapid diminution of the subcutaneous tissue. Petechiæ were found in a few instances, generally most in the præcordial region, hypogastric region, and on the thighs. The submaxillary and cervical glands, with the surrounding tissue, were generally swelled, but not to such an extent as might be expected from the swelling during life; the tonsils were either swelled, not hyperæmic, or covered with deep ulcerations, or again consisting, to a great extent, of a grey, fibrous mass; uvula ulcerated, sometimes much diminished in size; liver and spleen, in a few cases, greatly hyperæmic in spite of general anæmia; in one instance there were apoplectic clots in the tissue of the spleen; in others they were as anæmic as the body in general. The blood was generally thin and liquid, and several times of a dark, scorbutic color; the meningeal blood-vessels were distended with blood, undoubtedly a consequence of moribund condition. In the case of death from uræmic convulsions, in Hoboken, a small vein near the left sinus transversus was ruptured, and a small clot of blood presented itself outside the vessel. Thus the results of post mortem examinations are certainly few; there is nothing in them characteristic of diphtheria, except the local alterations; and in this respect diphtheria takes part in the general nature and anatomical mystery of the zymotic diseases as a class.

The diagnosis of diphtheria, and particularly of diphtheritic affections of the pharynx, ought never to be difficult. At all events, it can be made with less difficulty than scarlatina, which will not unfrequently be recognized from its consecutive diseases only; for there is one pathognomic symptom which will never fail to give certainty, viz., the pseudo membrane. All the other symptoms, as headache and earache, submaxillary and cervical adenitis, erythematous or œdematous swelling of the fauces, fever, convulsions, toxæmia, and prostration, foul smell from the mouth and nose, albuminuria

and hemorrhage, severe though they may be, are not pathognomonic. Each of these symptoms may either be produced by other diseases, amydalitis or general pharyngytis, any feverish disease, particularly scarlatina or other acute exanthems, gangrenous sore throat, or meningitis; or they may be absent in a case of genuine diphtheritic affection. The difference, as to severity and danger, in diphtheritic affections is at least as great as in any other epidemic malady; and many cases have such an innocent appearance that authors have been induced to comprehend them under the name of herpetic angina. As to this we have stated our reasons for considering them as mild forms of diphtheria, which, however, may lead to very severe consequences; there is in them a local diphtherite with no fever or only a slight febrile attack with intermittent character. Nasal discharge, and foul smell from the nose and mouth are not at all required to ensure the diagnosis, nor is any symptom of the same importance as the exuded membrane. It will not be difficult to distinguish the diphtheritic membrane. It will not be difficult to distinguish the diphtheritic membrane from gangrenous pharyngitis; but it must be well borne in mind, that local gangrene may be a complication of diphtheria. Even Bretonneau has observed, that diphtheritic membranes would sometimes cover the exulcerations produced by pultaceous cynanche. The differential differential diagnosis from scarlatina will, in some instances, cause difficulty for several reasons. Scarlatina is frequently complicated with diphtheria; thus, wherever the eruption is of no account or escapes the attention of the physician, a mistake is easily made. Secondly, albuminuria is common to both, and prrhaps there is no other difference between the two except this, in many instances, that the urine of scarlet fever patients will more generally show casts. And finally there is, too, an erythematous eruption of scarlatina. Some writers, like Dr. Peter, take such cases to be scarlet fever complicated with diphtheria; such an one of the two maladies as is produced by a greater epidemic influence exhibiting the principal symptoms. We feel no inclination to agree with this opinion; for such cases will sometimes turn out as diphtheria, from subsequent symptoms, as, for instance, paralysis; no scarlatinous desquamation has ever been observed by us, and the little furfuraceous desquamation that sometimes will take place, has, in some instances, been found where no erythematous eruption is not an absolutely uncommon occurrence in any of the febrile diseases of infancy. We finally add, that we have observed diphtheria in individ-

uals, and even returning for the second time, who had suffered from scarlatina before. This remark we make in regard to those who are inclined to recognize an indentity between scarlatina and diphtheria.

One case under our observation offered a remarkable point as to diagnosis. A man suffered from what appeared to us to be pharyngeal diphtheria, with fever, etc., for some days before he was taken into the Jews' Hospital; he grew anæmic and prostrated, but the membranes did not take very long to disappear from the soft palate and uvula, under a simple diphtheritic treatment. Something like a fortnight afterwards the uvula and soft palate again exhibited a grey coating, which soon, in the course of a few days, increased consderably in size, and showed the symptoms of syphilitic ulcerations. The patient denied ever having suffered from chancre, nor could we discover any marks. Our antidiphtheritic treatment was continued for about six days, until the soft palate was perforated. Feeling sure, then, that we had to deal with secondary syphilis, probably brought on prematurely by the preceeding diphtheritic affection and œdematous swelling of the parts, we commenced a mercurial treatment; the patient confessed as to his having had syphhilis, but it was then too late to save all of his soft palate.

The prognosis depends on the condition of the child preceding the attack, on its age and general strength, on the character of the affection, and on the absence or presence of dangerous complications. Children will die in a larger proportion than adults; these being affected in a larger number with diphtheria than with scarlatina will, as a general rule, take effect once during the life of a patient, while diphtheria has a great tendency to return. Anæmic and sickly children are in great danger under all circumstances; cutaneous diphtheria will prove fatal in many instances during the first year where cutaneous eruptions are common occurrences. The extension of membranous exudation in the pharynx, etc., does not always produce a proportionate malignity, except in small children where the breathing is particularly effected through the nose, and even a slight obstruction of its cavities and moderate swelling of the pharynx is able to prevent decarbonization of the blood. Scarlatina, measles, noma, gangrenous sore-throat, large swelling of the submaxillary and cervical glands, high fever extensive pneumonia and bronchitis give no favorable prognosis. But the average mortality is not so great as might be inferred from the reports published on some epidemics. The cases of mild form and average

severity are the large majority, and will recover with a rational treatment. Severe cases often perish in spite of any thing that may be done to relieve them. Cases that set in with a high fever, considerable adenitis, cerebral symptoms, intense head-ache and ear-ache, and convulsions, small, frequent pulse, and a foul smell from the nostrils and mouth, must be considered as extremely dangerous. Hemorrhages, at any place, and of any kind, must be considered as a severe complication, as they indicate a deep-seated alteration of the blood; we have observed hemorrhages from the nose (right nostril) and intestines, and petechiæ. They must be considered as of equal importance to those occurring during or after scarlatina, erysipelas, etc., even in some of those cases where the nasal hemorrhage is produced, as causa proxima, by exulcerations of the nasal mucous membrane. Cases of average severity will take from five or six to ten and twenty days to recover: severe cases, unless they prove fatal during the first period, may take several weeks or months. But the large majority, according to our experience, ultimately recover. Of about five hundred cases, we believe we have lost not more than thirty, but we have seen very protracted convalescences in most of them, depending on the prostration of the nervous power and the anæmic condition of the patients. The causes of death are of various nature. Sometimes it is the dissolution of the blood, the exceedingly high fever, cerebral symptoms at the first onset or towards the end, exhaustion from want of food and absence of digestive power, general nervous prostration, protracted anæmia, or suffocation from obstruction of the respiratory organs.

We need not add that the prognosis becomes more unfavorable than it will be under other circumstances, from the fact that the disease is very apt to return. A second attack in a child exhausted by a preceding one will readily prove fatal. Even laryngeal diphtheria has been observed to recur, although we have never seen an instance of croup twice occurring in the same individual. Guersant performed tracheotomy twice in each of two children, after intervals between the two attacks of eleven and twenty-one months. A few other cases of the same kind have been reported.

One of the most remarkable consequences of diphtheria is total or partial paralysis or paresis. Paralysis of the velum palati will, in many cases, be observed during the course of the exudative process and œdematous swelling, and in this case must be taken as directly depending on the natural alteration of the tissue. The voice will have a nasal twang,

and food, particularly of the liquid kind, will regurgitate through the nose, but in other instances, it will not make its appearance before the process is all over, and the patient, although still anæmic, on a fair way to convalescence. We saw, this week, a little boy of three years, who, for the last four months, has had this nasal twang and suffered from regurgitations of liquid food, after having gone through a slight diphtheritic affection of the pharynx, in the first half of January. The same remarks are applicable to other forms of paralysis, as strabismus, of which we have observed several cases in children. We may here state that we have seen no other forms than those two enumerated in infancy. In adults we have observed several instances of general paresis of either the motory or the sensory nerves, sometimes the two together. The lower extremities will be the first affected, and afterwards the sexual parts, upper extremities, hearing, taste, smell, and sight will be involved in the general affection. The motory nerves were mostly affected, physical exertion being extremely difficult. The youngest individual in which we have seen these general symptoms, was a lady of seventeen years, in whom motion, sensibility, sight, voice, and intelligence suffered in an equal degree. The respiratory muscles have been reported, by authors, to have been paralyzed; we have not seen any such case, unless that reported on page 96 belonged to this class. As we had no experience whatever on this point at that time, we then directed no particular attention to this fact. The prognosis in these cases is favorable; all our paralytic patients recovered in the course of from two to five months. Even complete amaurosis, of which we have not seen a case, is reported by Maingault to have recovered in a little more than six months. A few cases of death, however, have also been related; in two instances, from suffocation produced by food getting into the larynx, the pharyngeal muscles being paralyzed.

The cause of this paralysis is somewhat obscure. It is but natural that a material alteration taking place in the soft pallate should interfere with its functions. But the majority of cases date from convalescence, will sometimes appear suddenly and sometimes are gradual in their development. It may be observed after very severe attacks of diphtheria, and again after apparently a mild form; we have stated that it followed some light cases of so-called herpetic angina; and we have above pointed to the fact, that many cases of diphtheritic paralysis were preceded by albuminuria. We do not hesitate to attribute general paralysis of this kind to the want of sufficient

nervous power, produced by the diphtheritic hydræma (which, too, we consider in these cases as the cause of albuminuria.) Local paralysis, we are inclined, from physiological reasons, to attribute to local extravasation or exudation, the last cause of which must also be sought for in general hydræmia and facilitated transudation. We have seen one instance of loss of hair during convalesence.

The diagnosis of diphtheritic paralysis is made sure by the history of the case, and by the difference from other forms of paralysis. Paralysis from myelitis begins with clonic and tonic convulsions, and descends slowly, and the pharynx suffers last, whereas diphtheritic paralysis shows the affection of the pharynx and the power of speaking at first. Galvanic contractility is also intact (which is not the case in spinal paralysis); and paralysis, according to what has been observed in other epidemics, has a great tendency to localization and diphtheria.

As to the treatment of diphtheria and diphtheritic affections, we venture upon the following remarks:—This disease which has been the subject of the foregoing exposition, has been shown to exhibit prominent symptoms of two different kinds, viz: local and general. Thus the treatment, where any is required, has to fulfill two distinct indications. We say, wherever it is required, for experience shows that a number of cases will get well without any treatment whatsoever, so that it is not a very unfrequent occurrence to meet with light tonsillar diphtherite without fever, or any other dangerous symptom, in children to which we are called for some other complaint. In such cases light fever may have been present, and large membranes have been exuded on or into the mucous membrane of the pharynx, and nevertheless the whole course of the disease has passed unheaded and untreated. Such an occurrence is certainly not exceptional, for the same is true of other diseases, particularly those of zymotic origin. The majority of zymotic diseases require little or no medical treatment at all, especially those running their course in a distinctly typical manner. As to diphtheria, we have even made experiments, showing that mild cases will get well wihout treatment. But we think it more dangerous in diphtheria, than in other zymotic diseases, to abstain from treatment altogether, for three reasons:—Diphtheria is not a typical malady, but has a great tendency to return; it is more of an adynamic character than any other; and, finally, by the thick and extensive exudations in the pharynx and on the

adjoining parts, it is apt to produce serious troubles, by mechanical encumbrances to deglutition and respiration.

The local treatment consists of cauterization of the membranes and surrounding parts with the solid nitrate of silver, or with strong or mild solutions of the same salt in water (℥ ss-j.: ℥ j.); of gargles, consisting of solutions of (or applying in substance) astringents, such as tannic acid, alum, sulphate of zinc, or claret wine; in gargling with, or applying, such medidinal agents as are known to have some effect on the constitution and tissue of the pseudo-membranes, as chloride of potassium, chlorates of potassa and soda, diluted or concentrated nitric or muriatic acids, liquor of sesquichloride of iron, etc. Astringents will prevent maceration, render the exudation dry and hard, and alter the consistency of the surrounding hyperæmic and œdematous tissue. It will thus prevent, sometimes, the extension of pseudo-membranes to the neighborhood of the parts already affected, and in some cases may accelerate the expulsion of the membrane as a whole. We have thus seen the best effects from tannic acid, either applied directly to the parts by means of a curved whalebone probang, or dissolved in water so as to have a gargle, (℥ ssji; ℥ j. Of the tinct. sesquichlor. iron we have seen no particular effect.

Cauterizations with nitrate of silver we have found to be generally of very little use when applied to the pharynx. Its effect is superficial only; it will form a scurf, but will destroy nothing. Destruction of the parts cannot be effected except by forcing the caustic into and below the membrane; this can seldom be done in the pharynx of children, and for this reason cauterization is unavailing at this point, but will prove beneficial, we believe, by confining the process of exudation to its original locality. In cutaneous diphtheria cauterization may be exercised to its full extent, but as these cases are generally attended with extreme prostration, the general treatment will prove both more necessary and successful. If cauterization is to be resorted to, we generally use, and with good effect, more or less concentrated muriatic, or acetic, or nitro-muriatic acid. Where, however, cauterizations are made, great caution is necessary not to mistake afterwards the result of the caustic for pseudo-membrane. This remark is particularly applicable where nitrate of silver has been used.

In regard to the internal administration of remedies, and the general treatment of diphtheria, we have to remember

that it is eminently an adynamic disease. Prostration will set in, and complete exhaustion will sometimes destroy patients in spite of the most careful treatment. As a general rule, therefore, no remedy should be administered that will increase the amount of water in the blood, accelerate its decomposition, or exhaust the nervous power. Mercury must be avoided, no blood be drawn, no vesicatories applied, in a word, no antiphlogistic treatment should be resorted to; for the superabundance of fibrine does not indicate antiphlogistic treatment, as it is a well-known fact that in extreme hydræmia the proportion of fibrine may be greatly increased. The more hydræmia is increased, the greater the proportion of fibrine. For the same reason the careless routine practice of administering large doses of alkaline remedies, carbonates, bicarbonates, nitrates, etc., of potassa and soda, for the purpose of liquifying the fibrine, must be discarded. Their effect is generally not good, and we firmly believe that the duration of convalescence will be lengthened by their free use. Trosseau is certainly right in asserting that rationalism in medicine is very apt to lead to absurdities.

Emetics must be avoided as much as possible; but they will sometimes prove necessary to remove accumulations of mucous or macerated membrane. Then ipecac is preferable to the others. In cases where diphtheria is descending into the larynx, great caution is desirable in administering emetics; for in this form of croup exhaustion will sometimes take place unexpectedly and rapidly before suffocation.

The functions of all the organs have to be kept in order; the kidneys require special attention, the greatest danger being in the interruption of their function. Spir. nitr. dulc. squill, and parsley may be administered; but neither digitalis nor iodide of potassium. The skin will generally act well with liq. acetat. ammon., alcoholic beverages, and frictions. Regular baths, with alcoholic or aromatic admixtures, and change of air and residence will prove beneficial. Digestion must be kept as normal as circumstances will allow; tonic and stimulating diet not only allowed but insisted upon; meat, eggs, coffee, wine and brandy are recommendable.

As a general antidiphtheritic remedy, chlorate of potassa and chlorate of soda as its substitute, have earned a good reputation. Chlorate of potassa is soluble in sixteen parts of water, and is well tolerated by the stomach. There is no necessity, therefore, for preferring the soda, which is higher

in price, though it has the preferrence in dissolving in three or four parts of water. We do not agree with those who deny the efficacy of this remedy, because it does not meet all emergencies. We have used it in hundreds of cases, besides its administration in stomatitis, mercurial affections of the mouth, etc., and are perfectly satisfied with the result, except in those cases which ran an extremely rapid course with such symptoms as high adynamic fever, quick and small pulse, evidence of dissolution of the blood. In such cases it is too slow in its effects. But in all those instances where a sudden and instantaneous effect is not required, and death is not imminent, it is a highly valuable remedy. But doses of a grain or two will not prove sufficient; it ought to be given in doses of from half a drachm to one and a half drachms daily, dissolved in water alone, or combined with other remedies. If possible the patient must be made to swallow the solution slowly, to have its local as well as general effect.

Acids are very beneficial agents in this disease. Diluted muriatic acid, four, six, or ten drops every hour or two hours, more in proportion to adults; or concentrated nitro-muriatic acid, two or six drops in the same intervals, will be found to act as well locally as generally, and will, besides, increase the appetite and stimulate the digestive functions. The concentrated nitro-muriatic acid we have regarded as one principal remedy in those dangerous cases described above. Good effects have, in many instances, been observed from full doses of tannic acid, ten grains to two scruples and more being given daily, dissolved in water. It has a beautiful local effect in the pharynx when swallowed slowly, and is of invaluable service in renal affections.

As a tonic, iron is highly serviceable. The preparation most in use with the English profession, and with us also, is the tincture of the sesquichloride: its astringent effect has been praised highly, perhaps too highly; its influence on the whole system in general, and sanguification in particular, is undoubted. Its dose is, according to age, from twenty drops to one and a half or two drachms daily, alone, or, as most administered, with chlorate of potassa. Combinations of these, or the two with diluted muriatic acid, or each with the acid, are of the same practical value as they are theoretically justifiable. If tannic acid and iron were to be used, in any form or manner, at the same time, they are to be kept apart, and administered at different times; the tannate of iron being indigestible, Ozanam's formula,

Bromine gt. j,
Bromine potass. gr. ij,
Aq. ℥ ij,

we have tried in fifty cases, from November, 1859, to February, 1860. We have used it in much larger doses than Dr. O., from thirty to fifty drops and more daily, after we were dissatisfied with smaller ones. We think it a valuable remedy except in severe cases; we should not then rely on it; perhaps, however, we have not sufficient experience. We have a similar remark to make in regard to the tincture of iodine, with which we have had but little experience.

Of the greatest value is that powerful febrifuge, quinine. We have but seldom used it as a tonic, but generally in one or two large doses (from five to ten grains in children, or the sulphate or muriate, the latter containing more quinine) daily. We have never seen any bad effects, but have always found a great and rapid remission of the fever. If one dose was taken we ordered it in the afternoon, usually between three and five o'clock; another was sometimes taken in the morning for one or two days, until there was no necessity of administering it twice. A *conditio sine qua non* is a full dose. A child of a year or two must not have less than five grains in a daily dose; we have even given to children of two or three years, repeated doses of ten grains, and have been fully satisfied with its effect. We have in no disease observed less cerebral symptoms attributable to the effect of quinine than in diphtheria. It will prove particularly successful in such cases as are more or less complicated with acute rheumatism. In the case of a girl of seven years, whose stomach was much disordered, we resorted to subcutaneous injections of a nearly neutral solution of mur. chin, gr. iv, on two subsequent days, with excellent success.

Albuminuria requires tannic acid; we seldom give any other remedy, and warmly recommend it. The functions of the bowels, skin, etc., require the care indicated by the rules of general and special pathology. In a case of hemorrhage from and suppuration in the kidney, in sickly diphtheritic girl of three years, we thought proper to give evratrum, in order to diminish the fever, and thus, indirectly, to relieve the congestion of the kidneys; our success was complete; the child being more healthy and robust than for years.

Descending croup, during the epidemic, proved highly dangerous. Patients in some cases had not even sufficient time to die of suffocation; but perished from the exhaustion brought

on by the general malady. We feel, therefore, justified in warning against a free use of emetics, as a new source of exhaustion. We have no particular remedy to recommend; the treatment should vary according to the case. But, in referring to our remarks and cases above, we feel sure that even of such cases, many will in future be saved by tracheotomy.

Hemorrhages require, locally, astringents, and the general antidiphtheritic nutrition and treatment. Wherever the seat of hemorrhage can be reached, we doubt not but the application of tannic acid, muriated tincture of iron, or, better than anything else, persulphate of iron will prove successful instantaneously.

Paralysis requires moderate, very moderate, active and passive motion. The eyes require great care and perfect quiet. Local paralysis indicates local galvanization; thus, in paralysis of the soft palate, one pole is applied to the palate, and the other to the mastoid process. In general paralysis, iron and strychnia are indicated; the latter we have used, on the recommendation of Trousseau until a slight convulsive flection, usually in the thighs first, became perceptible. Our dose was, in adults (as we have not seen children with general paralysis), from the one-eighth to the one-sixteenth of a grain, twice a day.

Submaxillary and cervical adenitis require seldom or never any kind of depletion. In two cases only, in which active inflammation seemed to take place, we have applied leeches. Our usual treatment consisted in the application of camphorated oil, or of tincture of iodine in older cases, or of the following formula:

Iodine, ʒ ij.;
Glycerine, volatile liniment, āā ʒ ss.

In the very small number of cases in which suppuration took place we recommend early incision.

Finally, in cerebral affections, we know of nothing to recommend. Convulsions in the onset of the disease will generally not prove fatal; but such as occur after exhaustion and symptoms of dissolution of the blood have taken place, will prove the prelude of death.

PERIODICITY AS A CHARACTER OF DISEASE.

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There is one disease—ague—of the phenomena of which periodicity is an invariable characteristic. There are other affections—the neuralgia and nervous headaches—which very frequently assume a regular intermittent character. And, occasionally, in the course of various diseases a tendency to a periodical type is manifested.

Quinine and arsenic are specifics in ague. They are hardly less valuable in neuralgia and nervous headaches. And when, in works on medicine, we meet with the remark that sometimes the symptoms seem to come on periodically, it is generally coupled with the statement that in these cases quinine will be found of the utmost value.

What is the *rationale* of the facts?

The cause of the regular periodic recurrence of the paroxysms of intermittent fever, is discussed by Dr. Watson, in the first volume of his Lectures on Medicine, p. 758. After passing in review the various theories that have been advanced to account for it, he leaves the subject as one altogether uncertain. Cullen's hypothesis as to the influence of diurnal habit he thinks the nearest approach to the truth; but admits that this will in no way account for the tertian and quartan types of ague. In this state of uncertainty, the peculiar poison—malaria—which causes intermittent fever has been generally regarded as the source of its periodical character. It is supposed to act in the way of a ferment in the blood: and the zymotic process set up by it is supposed to have its regular development and decline, the paroxysms being its effect on the nervous system when the process attains its acme. When other affections manifest a periodic type, it is supposed that their subjects have either had ague, or been exposed to malarious influences. On the other hand, quinine and arsenic are considered to be antidotes to the malarious poison, and thus to counteract its periodic influence in all affections which tend to assume that type. But I think I shall be borne out by general experience when I assert that periodic phenomena are manifested in many a case of neuralgia or other disease, when the hypothesis of malarious influence is altogether shut out. This theory, therefore, in itself *a priori* most improvable, must be at once rejected.

If, then, the periodicity of ague does not depend upon the peculiar poison which occasions it, does it depend upon the peculiar portion of the organism which that poison affects? This is universally acknowledged to be the nervous system—the sympathetic.

Let me place one after another some of the principal phenoma of the cold stage of ague, with those produced by galvanization of the sympathetic in the neck.

In the cold stage of ague "the patient feels chilly; the blood deserts the superficial capillaries; he grows pale, his features shrink, his skin is rendered dry and rough, his respiration is quick and anxious; his pulse frequent sometimes, but feeble; all the secretions are usually diminished; may make water often, though generally he voids but little, and it is pale and aqueous; his bowels are confined, and his tongue is dry and white."—*Watson, op. cit., p.* 735.

Let Dr. Brown-Sequard now tell us the result of his galvanizing the sympathetic in the neck. "The pupils are dilated; the eyelids wide open; the globes protruding. Blood deserts the superficial vessels; secretion is diminished or checked; temperature and all vital functions lowered."

It is clear from the above that that the essential phenomena (diminished afflux of blood to the surface, check of secretion, and lowering of temperature) of the cold stage of intermittent fever may be produced artificially by excitation of the sympathetic nerve, and are dependent upon the contraction of the blood-vessels thereby occasioned. The hot stage is no less explicable as the natural reaction of the vessels to even beyond their normal calibre, and finds its precise analogue in the phenomena which results from section of the sympathetic in the neck.

It would appear from the above that the sympathetic system is that part of the organism specially affected by the malarious poison, and that the phenomena of ague depend on a periodic excitation of it by the poison, followed by an equally immoderate reaction in the opposite direction, which latter at length settles down to the equilibrium of health. And upon the hypothesis the beneficial influence of quinine and arsenic in this disease receives its perfect *rationale.* For these are well known as (to use Dr. Handfield Jones' term) "toners of the vaso-motor nerves"—i. e., of the sympathetic, and their tonic influence thus exerted will obviously render it capable of resisting the morbid irritation of the malarious poison—a view of which is confirmed by the well known fact that quinine is no less valuable as a preventive than as a curative agent against this malady.

But will the fact of the sympathetic system being the seat of the phenomena of ague help us to explain the periodic character of these phenomena? I think it will. Let us consider the actions of the heart and the uterus, two muscular organs supplied mainly or entirely by this nerve.

What is the cause of the rhythm of the heart? It cannot be the stimulus of the blood, or of anything else within the body: for a frog's heart will continue its regular systole and diastole for some time after its removal from the thorax. The only motive agency then left to it is that of the sympathetic ganglia, which are imbedded in its substance. To these nervous centres we are therefore shut in our inquiry as to the heart's action; but the influence of these centres is neither continuous nor occassional, but rhythmical—i. e., periodic.

The uterus resembles the heart in its also possessing numerous sympathetic ganglia imbedded in its muscular walls, and in entire independence of the cerebro-spinal system in its movements. Is there anything here periodic? We immediately think of the regular monthly recurrence of the phenomena of menstruation, and of the act of parturition, which (as first shown by Dr. Tyler Smith in the pages of *The Lancet*) is determined by the menstrual periods, being normally due on the 21st day after the commencement of the last menstruation.*

From the marked periodicity apparent in the action of these two organs, exclusively animated by sympathetic ganglia we seem justified in the conclusion that a periodical evolution of nerve-force is characteristic of this division of the nervous system; and if this be the case, we cannot be surprised that it should give its peculiar character to phenomena resulting from the effect of a poison upon itself. Thus the periodic character of the paroxysms of ague is reduced under the mere general law of periodic character of phenomena, morbid or natural, over which the sympathetic system presides, dependent upon the endowment of this system itself.

It follows that periodic phenomena appearing in the course of any other diseases must be attributed to an involvement of the sympathetic system in their morbid irritation; and thus the beneficial effects of quinine and arsenic in all such cases fall under the general law of their toning influence upon that system. I may instance the most common affection which

*This theory should be more widely carried out in obstetric practice. I have been delighted at the exactitude with which it has enabled me to predict even the day of delivery. The advantage of such a pre-knowledge, whether to patient, or practitioner, is immense.

inclines to a periodic type—nervous headache. Dr. Symods, in his admirable Gulstonian Lectures upon this subject, shows by many arguments that the vascular nerves (i. e., sympathetic) of the brain and skull are the seat of pain in this affection, and in common with general experience, regards quinine and arsenic as the sheet-anchor in its treatment.

I venture to admit that the following original conclusions are established by the preceding considerations:—1. That ague is an affection of the sympathetic system. 2. That its periodical character is dependent upon a periodicity impressed upon the sympathetic system, and manifested in all the phenomena, morbid and natural, over which it presides. 3. That the *modus operandi* of quinine and arsenic in ague and other periodical affections is the toning influence exerted by them on the sympathetic nerve. The doctrine also of the dependence of the heart's movements on its embedded ganglia, and of the menstrual periodicity as the determining cause of parturition, receive no slight corroboration; and our instinctive recourse to quinine and arsenic, whenever periodic symptoms manifest themselves, receives alike its *rationale* and its establishment.

TREATMENT OF DIPHTHERIA.

If there is much excitement in the beginning. I give an emetic of ipecac, and followed, if the bowels are constipated, with some mild cathartic, such as rhubarb. After the action of the emetic, if one is given, or otherwise immediately, I cauterize the diphtherite patches on the tonsils with the nitrate of silver, applying the stick direct. I think it much neater than the solution, and can be applied where you wish it, and there only. I load the end of a quill with the stick—the best caustic holder I know of, and always at hand in a country practice. With this I cauterize the throat once every twenty-four hours, so long as necessary. I make a saturated solution of the chlorate of potassa, to which, if the case requires it, I add quinine and Bourbon whisky.

℞ Chlorate of potassa, ℥ j.
Sulph. quinine, grs. xvj.
Water, ℥ xvj.

Dose of a teaspoonful to a tablespoonful every three hours, according to age. In cases where there is a pale, moist, cool skin, a frequent and soft pulse, the addition of the whisky to the above formula will prove of great benefit.

As a stimulating gargle I use—

℞ Apple vinegar, ℥ viij.
Capsicum, ʒ j.
Muriate of soda, ʒ j. M.

Use three or four times a day as a gargle. As an astringent gargle I use a decoction of oak or persimmon bark, cold.

As a styptic in hæmorrhage from the ulcerated surface of the throat, I used a strong solution of the sulphate of zinc and ice.

The external application that I used in all my cases was a piece of of old bacon bound to the throat. The bacon usually in from one to three days brings out a crop of pimples, producing a safe and valuable counter irritation. Owing to the tendency of diphtherite inflammation to attack abraded surfaces, I do not consider it judicious to use the ordinary blistering preparations.

This course of treatment in my hands has been successful in every case but one that I saw before the laryngial symptoms were set up. It has been adopted by other physicians with like success.

As a constitutional remedy, I rely upon the chlorate of potassa and quinine, with the additional stimulus, when required.

As a topical application, I rely upon the nitrate of silver, with the gargles above mentioned. In many cases I allow a liberal fluid diet, if it can be taken.—*Dr. Barbour.*

THE USE OF INSTUMENTS IN OBSTETRIC PRACTICE.

The use and abuse of instruments in midwifery is a theme worthy of strict examination, and hitherto we believe much misapprehension has existed on the subject. In the schools and in systematic works, it is laid down as a rule, that the use of instruments is never to be had recouse to if it can possibly be avoided, and young men generally commence practice under the direst fear and apprehension of committing errors

in this respect. Indeed, so strictly are they cautioned against the use of instruments in midwifery, that they scarcely think it worth while to learn how to manage them; consequently, when they meet with a case requiring instrumental aid, they feel they have a great emergency to contend with, without the necessary qualification to meet it; and many a valuable life may have been placed in jeopardy, or lost owing to the indecision or incompetency of an untaught junior practitioner. Surely it would be a much safer method of teaching to make students experienced in the use of instruments, leaving it afterwards to their own judgment and sense of propriety not to abuse them, than to instil into their minds such a horror of them, t hat when thy do meet with difficulties in practice and have to depend upon their own resources, they either shirk necessary instrumental aid or, if driven to employ instruments, find themselves baffled, to the peril of the lives of those entrusted to their care. Dr. Tyler Smith strongly urges the more frequent employment of the forceps as one of the means of removing the necessity for craniotomy, and remarks that "there is scarely any point in practice admitting of greater improvement than the more frequent use of this instrument in the capacity of extractor, of lever, of rotator, of compressor, and lastly, of an excitor of uterine action." He states, that "the maternal mortality, after the use of the forceps, is in this country somewhat less than one in twenty, whereas nearly one in five of all mothers die after craniotomy." Now taken into calculation what a comparatively easy operation craniotomy is, the greater mortality attending it probably *depends more upon the consequences of pressure and exhaustion from protracted labor, than upon the operation itself*, and is a strong argument in favor of the use of the forceps at an earlier period. But the argument applies with still greater force in favor of the vectis, which can not only be used earlier in labor than the forceps, but is followed by a much smaller rate of maternal mortality, as well as of certain other unfavorable results of delivery by the forceps. The writer of this article used the vectis in private practice one hundred and twenty times, and not one of the mothers died. He has since used it in *consultation* practice, frequently after failure of the forceps in experienced hands, 56 times in 210 labors, or 1 in 3-75, with a fatal result to one mother only, and that from puerperal fever after a very prolonged labor. Scarcely ever has it caused rupture of the perineum, and in no instance sloughing or injurious iflnammation of the soft parts. How is it that an instrument of such value is scarcely mentioned in systematic

works, and not at all by the author of the paper in question? We know that it is very extensively used in provincial midwifery practice, and depended upon by many to the exclusion of the forceps; Denman, a great authority, thought highly of it, and the very argument used by those who inculcate in the minds of students the axiom that "meddlesome midwifery is bad"—viz., that practitioners are too apt to use them more frequently than necessary, implies in some degree that benefit is derived from their employment; for, undoubtedly, no practitioner would frequently resort to any means of treatment which he found predjudicial to his patients, and consequently injurious to his own reputation and success. In making these remarks, however, we are anxious not to be misunderstood; we deprecate and interference with the natural process of labor when all is going on well; we disallow any excuse for instrumental interference on the score of convenience or saving of time to the practitioner; but we nevertheless agree with the opinion of Dr. Tyler Smith, that "*greater dangers accrue from the neglect of instrumental interference than from the abuse of these means*, and that the evils which result from protracted labors are now so well understood, that few obstetricians could be found who would seriously advocate the barbarous practice of keeping a woman undelivered for several hours after her delivery had become safe and practicable by the forceps."

There is another very interesting paper in the "Transactions," on "The more frequent Use of the Forceps as a means of lessening both Maternal and Fœtal Mortality, by P. H. Harper. who pleads strongly, both by argument and statistics, in favor of a much more frequent employment of the instrument. He has endeavored to show there is no special maternal risk which necessarily attaches to the use of forceps, and that the various injuries and other ill effects which are usually attributed to them are not the result of their use but of their abuse. That when maternal death occurs after their use, it is generally because of the result of the length of time the labor has lasted before their application. That so long as they are applied as the last resort in tedious labor, so long will the maternal mortality after their use appear to be very high.

"We have proved," he says, "from the only statistics which give us the necessary data. where the forceps were freely used, that 1 mother in 22, and 1 child in 5 died in unassisted tedious labor; whilst 1 mother in 56, and 1 child in 84 died where the forceps were used; and 1 mother in 10 died

after craniotomy. This proves that the maternal death is less after the use of the forceps than after craniotomy, or even unassisted tedious labor."

We subjoin the following table, which tells its own tale:

	Forceps cases.	Fœtal deaths.	Maternal deaths.	Duration.
Collins....	1 in 694....	1 in 26....	1 in 329....	38 hours.
Hardy.....	1 in 355....	1 in 20....	1 in 334....	35½ "
Johnston..	1 in 60....	1 in 35....	1 in 502....	29½ "
Harper....	1 in 26....	1 in 47....	1 in 1490....	16 "

—*Brit. and For. Medico-Chirurgical Review.*

Carelessness on the part of Correspondents.—The Journal of Materia Medica complains of the inconvenience caused by the neglect of letter writers to give their addresses in full with post office, county, State, &c. We presume that every one having an extensive correspondence is frequently annoyed in the same way. We are sometimes unable to reply to letters, either from inability to decipher the name of the writer, or for lack of the county and State being stated. There is a great need of reform in this particular. Subscribers, too, who change their location, and wish the address of their Journal changed, also, should in all cases state the post office to which it is at present sent, as well as the alteration they wish effected.

Removal of the Tongue.—Dr. Choppin reports, in the N. O. *Medical News*, the successful removal of the tongue in a case of cancer, with the ecraseur. The operation lasted fifteen minutes, and was performed without hemorrhage. This is one of the kind of cases to which the ecraseur is admirably adapted.

Editorial.

INTRODUCTORY ADDRESS TO THE CLASS OF RUSH MEDICAL COLLEGE.

BY PROF. J. V. Z. BLANEY.

GENTLEMEN OF THE MEDICAL CLASS:

This evening inaugurates the Eighteenth Annual Course of Lectures in Rush Medical College, and you are assembled to receive from us, your instructors, and we to offer to you a welcome to our institution. This welcome we now most cordially extend you, and while so doing, we cannot avoid congratulating ourselves and the friends of the Institution upon the fact, that the number of students in attendance upon the preliminary course just past, and present on this, the first day of the present session, is much greater than on any previous year since the foundation of the institution. This fact we cannot but accept as an earnest that our previous efforts, to afford to students of the Northwest a thorough course of medical instruction, has met the approval of the profession at large, as well as of those of you whose familiar faces have been before us in previous sessions. While feeling this to be a reward for the past, we are also stimulated to further endeavors to merit the approbation of those whose favorable opinion we desire to secure, as those most capable of judging our efforts.

Prepared somewhat to anticipate a large class at this session by previous correspondence, we have, as far as practicable, improved our means of demonstration, and made all possible arrangements to secure your comfort and convenience during the course of instruction just opening, and we

confidently hope that these arrangements will contribute to your advancement in your studies, secure your uninterrupted health during the session, and meet your approval at the close.

Selected by my colleages to offer to you some words of advice and counsel to direct your course of study, I select as the subject of a short address, "The elements of success and causes of failure in the character and habits of medical students." In the short time within which I must condense my remarks, it cannot be expected that I should give more than a faint outline of so copious a theme, but I hope to be able to exhibit a few of the dangerous reefs and shoals which but too often make shipwreck of the brighest hopes and most confident anticipations.

In the life of every man there is an epoch, which more than any other, determines for him the question of success or failure. To most men, probably, this arrives at the time when they make choice of the business or profession which it is their intention to pursue for the remnant of their allotted period of earthly existence. At this period you, gentlemen, have all arrived, as is proved by your presence here with the object of commencing the study of an honorable profession. The propriety of the selection you now make, and the resolutions now determined, will perhaps more than any other causes, influence your future success or failure. Does it not then become you to pause upon the threshold, and ponder seriously the responsibilities you are about to assume, and calmly and dispassionately look full in the face the difficulties and discouragements which are liable to beset your path at every step of advance? Were you merely about to enter upon the *study* of the medical profession, without intending to pursue it as your life-long avocation, the remarks I am about to offer would be needless. No profession offers in its prescribed course of study more allurements than that of medicine. It may truly be compared to a vast and beautiful field glorious in perpetual sunshine, and gemmed with myriads of flowers, both gorgeous to the eye and delicious to every sense, waiting only the appreciative mind to quaff its

beauties and revel in its ever-varying delights. Were this all; were there no beyond; I should have no word of caution or warning to offer, but I would invite you to enter its glorious precincts and regale yourselves to the full, without fear of being cloyed with profusion, or disgusted with repletion. But beyond these delightful fields of study lie the rugged steeps and weary ascents of the stern realities of professional life, and through and beyond these you must pass to attain the laurel and the bay which is to reward a well spent life. To gain the goal, you will have to leap the slough of despairing confidence, shun the allurements of other and more agreeable paths to fame, and avoid the slush and mire of empirical systems, which, like the Dismal Swamp, conceal their fatal depths of ooze and mud with a thin skim of velvet moss, which seeming luxuriously soft and easy to the foot, but treacherously conceals the alligator and the adder, and once trusted with his footfall, permits the traveler to sink beyond recovery. These, and a thousand other difficulties, beset the path, and fortunate and brave is he who, at the end of a successful life, can look back and say with truth, I have overcome them all.

There is a trite saying, that "forewarned is forearmed." If this is true, would it not be a false and short-sighted generosity which would permit a young man to enter upon a journey beset with difficulties, which threaten to prevent its accomplishment, without informing him of its inevitable perils, preparing him to meet them with courage, and furnishing him with the weapons for his defence. Yet such would be the course of your instructors did they permit you to enter upon the study of your profession without sounding a single note of warning.

Suppose that you were about to undertake a journey in performance of a responsible mission, what inquiries should you make before you entered upon your duties? First, you would inquire into the nature of the mission, and the kind and amount of responsibility you would assume. Next, you would ask yourself whether or not you had the ability to perform the duties devolving upon you, and to answer this

you would need to know the difficulties which would present themselves in the way of success. Lastly, you would wish to determine the course of conduct necessary to pursue in order skillfully to accomplish your purpose. Precisely such should be the course of self-examination pursued by each of you just entering upon a journey which is to last your whole life long, and upon a mission, than which few that a man can be called upon to perform, are more important, more arduous, or require higher qualities of mind or more mental and physical endurance.

Let us pursue this course of inquiry and examine—First: What is the nature, and what the amount of the responsibilities of the medical profession?

Gentlemen, if you could be made fully to appreciate the responsibilties you are to assume as medical men and yet feel willing to go forward in your course, you are brave men. You have before you no life of ease or gaiety, but one of severe mental application and physical labor, of constantly recurring trials of courage and trials of patience, of professional emulation and of non-professional criticism, of misconception, of reproach and of ingratitude, and with all this you have the perpetual burden of the responsibility of human life. Did you ever happen to be in a court of justice when the twelve men, to whom the law had submitted the decision of a charge of murder, came into court with their verdict of guilty stamped on their pale faces? Have you seen the prisoner at the bar, stained perhaps with numerous crimes, strain with haggard but eager gaze upon the foreman, from whose lips were about to issue the words, to him, of life or death? Have you seen that sea of human faces, pale and serious, riveted with breath restrained to catch the single word which dooms the wretched man to the scaffold, and yet failed to see, that each of those twelve men felt himself burdened with the responsibility of a human life, and that the burden was almost more than he could bear? And yet every day, nay, almost every hour of your life, as a practising physician, you will assume alone, not sharing with others, a responsibility equally great, and that of lives not justly

forfeited by crime, but lives which, if preserved, might be of the highest use to our common humanity, lives of the pure and innocent, lives in which are bound up all the affections, of whole families, lives of the great and good.

Do you appreciate this burden you are about to assume? Then pause and ask yourselves if you are, or ever will be, prepared to take this yoke upon you. If not, then turn back while yet there is time and find your proper place in other paths of life. If yea, then, with God's help, acquit yourselves like men!

Do not presume that, by these remarks, I would discourage you from pursuing the profession of your choice. Not so. I only wish that you should fairly see and appreciate the worst, that you may gird yourselves the more strongly for the contest, and be fortified in your foreknowledge, and thus prepared in advance for the struggle which sooner or later must come. But these are not the sole responsibilities which will rest upon you as medical men. You have duties to the profession itself, to maintain its honorable character before the world as enlightened, liberal, benevolent and progressive. And as every individual is, in his own person, a representative of the profession at large, his character, his proficiency and his labors for its advancement, or his neglect thereof, all count in the estimate made by community of the profession itself. No man can accept of the rights, privileges, and position conferred upon him by his admission as a member, of any association, without tacitly acknowledging the claims of such association, that he will sustain its honor and contribute to its advancement. As this claim is enforced by no penalty, but is the result of reciprocal interchange of tacit pledges, it is the more strongly binding upon the honor of the individual, and can never be ignored without disgrace and loss of self-respect. It will not do to close your eyes to these claims and fold your arms in negligent contempt, for your own consciousness will perpetually urge them upon notice, and you will be self-condemned, as a useless drone, in the busy hive, peopled with your active and successful compeers.

With this brief sketch of your responsibilities, we pass on to the next inquiry—Have you the ability, the powers of mind, and the mental training requisite to the performance of these duties?

Know thyself is the most difficult of all knowledge, and yet one of the most essential elements of success. Many men live out their lifetime without ever learning their real capabilities, much less detecting their deficiencies. They may consequently be straining every nerve in a direction in which they never can succeed, while in other walks of life, demanding different qualities of mind, they might with half the effort distance their competitors. And when we reflect that the analysis of a mental organization, which should indicate the qualities fitting a man for any social position, is so difficult to be made by the oldest and wisest metaphysicians, it is no longer a wonder that frequent fatal errors should be made in the choice of a profession by the young and inexperienced. Again, as no two minds ever have or ever will exhibit the same combination of qualities and powers, so nothing more than the merest sketch, in outline, of the most prominent features, can be indicated to guide a young man in his selection.

In order to attain superior excellence in the Medical profession, there are a few prominent traits of mind which are so essential that I shall endeavor briefly to indicate them:

The medical man should have quick perceptions, and the faculty of comparison. Many physicians, for want of these powers, fail in diagnosis; the first duty of the physician, in every case to which he may be called. Men differ very much in this regard. Some medical men seem almost to have intuitive perceptions, which enable them to detect, and guide them almost unerringly in the analysis of symptoms. Such men will make a correct diagnosis while others have scarcely seen the outward signs, much less appreciated the train of thought by which they have arrived at their conclusions. The former have a fitness for the profession which the latter can never attain by the longest experience. It is only by the consciousness of the want of this faculty, which, it is true, is not

acknowledged, but which would be a powerful incentive, that I can account for the fact that some men who have commenced their career in the right paths and under favorable auspices, have afterward chosen the easier paths of empiricism, where diagnosis is unnecessary, and all that is required is to prescribe for symptons as they arise, without any reference to pathological conditions or to the existence of causes to be removed. This must be a very easy and comfortable way to practice, but it appears to me must be rather unsatisfactory so far as a consciousness of filling any enviable position is concerned, for any old lady can take up the book, read off the symptoms of headache or toeache, and order the inevitable "nux, pullsatilla, camomilla, or mercurius," and dose out the required number of little sugar plums from the delicate little vial. It is all very plain sailing, and those who prefer it must be easily contented with such rivalry as I have just indicated. Indeed, I am at a loss to discover what is the use of the practioner at all where this is all there is to be done. But the worst rub of all must be the ever present conciousness of being a useless supernumerary in society, and of being paid for usurping the province of those elderly matrons who are always ready to give their services without fee.

Accuracy in diagnosis may, of course, be acquired by careful study of symptoms and by experience, but there is an immense difference in men in regard to the facility with which it is acquired, and with some there is a total inaptitude, which, when discovered, should be sufficient to deter him from further practice of the medical profession.

Decision of character and nerve are qualities which the medical man must possess in a high degree. These, if not innate, are seldom acquired, and the conscious want of them should at once deter any man from entering the arena of professional life. The want of these qualities is so evident to every one, so easy of detection by the patient and his friends, that a want of confidence and falling off of practice is the inevitable result, no matter how favorable the other conditions which ushered the young men into business.

Nothing sooner begets a want of confidence in the skill of

a medical man than the appearance of wavering and hesitation. This is different from uncertainty in diagnosis, of which, if he is doubtful, he shows no want of decision or of nerve by confessing the fact and calling counsel. This, indeed, it is his duty to do, and sensible people, instead of losing confidence, will rather be impressed with reliance on his sincerity, and be more willing to trust him again in serious cases. Indeed, the refusal to call counsel, where the uncertainty of the physician is discovered, leads naturally to the supposition that he fears detection of some mistake, or that he is conscious of his own deficiencies and fears the exposure which an intelligent counsel would detect. Though I would deprecate the unnecessary calling of counsel in plain cases where nothing is to be gained, yet, where the anxiety of the patient or his family is evident and they appear to wish it, the attending physician should rather anticipate the wish of the family, provided a competent and respectable practitioner can be obtained. If any irregular man is proposed, respectfully decline to meet him, stating fairly your professional reasons for so doing, and if it be insisted upon, retire from the case rather than sacrifice your self-respect.

The want of decision to which I refer is rather the result of a want of self-confidence, a fickleness of purpose, and an indisposition to assume responsibility. Where this is the consequence merely of a consciousness of deficiency of acquirement in the principles of the profession, or a want of experience, it is remedied in time by study and practice or hospital instruction. But where it is a vice of mental organization it totally unfits a man for the active duties of the practice of medicine.

Nothing can be more deplorable than the condition of an undecided physician when he has to cope with an unusual form of disease, or has a succession of serious and difficult cases. As long as he has only ordinary ailments to manage, he gets on swimmingly, but let one of those fearful epidemics occur, where the best informed and bravest of the profession are at fault, those times that try men's souls, and where is he then? Sickened, desponding, faithless, in regard to the

principles of his profession, he either falls himself a victim to the disease, or he seeks refuge for his craven soul in one of the easy chairs of empiricism.

That which I have termed *nerve* is no less essential than decision of character. It is, par excellence, one of the distinguishing characteristics of every eminent surgeon, and implies firmness of purpose, self-confidence, and confidence in the profession, fearlessness in assuming responsibility, great power of will, and perfect self-control, and, while the surgeon or obstetrical practitoner can only succeed when he possesses these qualities in strong development, a lack of them unfits a man for all branches of practice.

True, other qualities of mind, such as are essential to secure success in any undertaking, are equally necessary to the medical man, and however great, however grasping the intellect, it will find, in this department of study, full scope for its most exalted powers. But the qualities I have specially mentioned, I consider as absolutely essential to every man, in order that he may sustain even a respectable position as a practitioner.

Having pursued thus far your self-examination and determined to pursue the study of medicine as your profession, you should then determine the conduct on your part necessary to accomplish the study and most fully prepare you for its practical duties.

In this connection I can only hope to offer a few hints which may serve as finger posts on your journey, leaving minute details to your own good sense for their suggestion.

The first suggestion I offer is the necessity of *systematic* use of time. By this I mean the practice of setting apart a particular time of day for a particular duty, such an hour for a particular study, such an hour for another study, such an hour for exercise, or out-door employment. Believe me that by the adoption of this system you will accomplish immensely more in a given time than you could by attempting to study without any prescribed system. Of course this system will, at times, be unavoidably broken in upon by unusual occurrences, but if you are firmly determined to carry out your

system, you will succeed, with a large proportion of your time, in working up to rule. Try it for a time, and my word for it, you will soon be surprised at the greater amount of reading you will accomplish. Nothing is more apt to grow upon students than a vicious habit of unprofitable lounging, either in each other's rooms, or in other lounging places. Were a record kept of the hours thus spent by many students, for a single year, it would scarcely be believed what an amount of valuable time had been lost. I do not, by any means, deprecate the occasional visiting each other for relaxation and rational conversation. Indeed, if the subjects of your studies form the basis of your talk, within certain limits, such a practice has its advantages, by eliciting each other's views, assisting each other's comprehension, and impressing facts and principles upon the mind by a familiar review. These visits should, however, only be indulged in during the hours devoted to relaxation, and respect should also be had to the hours of study of others, that the time may not be frittered away which it was their intention to devote to study.

Make use of little moments of interval occurring unavoidably between your regular duties. This is the secret by which some men accomplish so much more than others. Every moment, even an interval of five minutes while waiting an appointment, is devoted to reading, and in the aggregate of years a vast amount of knowledge is acquired. We are told that a certain authoress of note, who was lady in waiting to a queen, wrote several of her most valuable works in the few moments of each day that she was waiting the approach of her royal mistress. In the case of physicians and surgeons of large practice, these little intervals occurring between calls are the only times in which to accomplish all the reading necessary to keep pace with the advance of the profession, or write the notes of cases or other observations of value which make up their public reputation. This hint might be considered trivial if it applied merely to the loss of time during student life, but if we reflect that the habits then formed are apt to cling to a man his whole life long, it

assumes an importance which may determine the question of mediocrity or superiority.

Cultivate a habit of close attention in the lecture-room. This is important in view of the fact that your lecturers, speaking for the most part extemporaneously, and giving to you the result of their experience, will often, under the inspiration of a moment of enthusiasm, throw out valuable suggestions which may prove of immense service to you in after life, but which will probably never go upon paper, and once lost from inattention is lost forever. Again, unless you become yourself a public teacher you can never know how much inspiration is given to a speaker by an attentive audience, or how difficult the effort to feel himself interested, and do justice to either the subject or himself, when a portion of his audience are listless, heedless, or perhaps attending to something else, while he is vainly laboring to drive knowledge into their resisting crania. The question is often asked by students whether it is of advantage to them to take notes during lecture time. The answer must be qualified. That the fact of taking notes induces a habit of undivided attention to the lecture there can be no doubt, and if the attempt is only made to set down the heads of the discourse, without trying to adopt the language of the lecturer, as a general rule the result is good. The notes themselves are valuable as a synopsis of the reading required to review the subject. The objection to taking notes during *demonstrative* lectures is this, that, while endeavoring to write down the remarks of the lecturer the demonstration may be lost, and of the two the latter is the more valuable. The distinction may then be made between a lecture which is purely didactic, and one which is mainly demonstrative; in the former the practice of taking notes, if dexterously done, so as not to lose one remark in setting down the other, is good, in the latter more is liable to be lost than gained by the practice.

The question may arise with some in regard to the relative amount of attention which it is desirable to pay to the several departments of study during each course of lectures. This query can only be answered with reference to the amount of

previous reading enjoyed by each student. If you have commenced the study of medicine but a short time previous to your first course of lectures, it is desirable that you should pay more special attention to what might be termed the rudimentary branches, viz: Anatomy, Chemistry, Materia Medica and Physiology. Do not, however, neglect a regular attendance upon the more advanced and practical branches, for you will learn much from the demonstrations and teachings, that will render your reading during the interval between your courses of lectures much easier of comprehension and more satisfactory. Learning also the practical application of your more rudimentary branches, gives to them an interest which they would not otherwise possess. My advice then is, that while you attend and endeavor to learn all you can from all the courses of lectures, to which you have access, let the most of your time given to study outside of the lecture-room be spent in the dissecting-room, or in the study of the rudimentary branches, so that becoming thoroughly grounded in these you may be the better able fully to appreciate the practical branches in your second or third course.

If on the other hand you have had a pretty thorough course of previous reading, you will find it to your advantage to pay as much attention to one branch as another. Experience, I believe, has fully proven that attendance on one course of medical lectures upon each branch is wholly unsatisfactory. The first course gives to the student merely a vague outline view of the immense field he has to travel, without permitting even the quickest intellect to attain that complete and minute knowledge in detail, which is essential, in order that he may use his information to advantage in practice. Even the third course is of great advantage to the best read students, and the remark is not unfrequently made by gentlemen of the profession, who after a greater or less number of years of active practice have attended a full course of lectures in a good medical institution, that this last course was far more useful to them than those of their student period, not that the lectures were better or more complete, but that they them-

selves were more appreciative. Do not, gentlemen, allow yourselves to presume that any one of you makes an exception to this rule. You may have had an unusual amount of reading, you may be very quick of comprehension, you may have enjoyed unusual advantages in the office of your preceptor, but let not these advantages breed in your minds the self-conceit that you are an exception to the rule. Be not in haste to graduate. Thousands of practitioners now unable from the pressure of business to attend a medical school for a single session, would be willing to make almost any sacrifice to attain the knowledge they feel they have lost by not extending longer their study. With many a man it is keenly felt to have been to him a fatal mistake to have graduated too soon, and to have made the difference with him between remaining for life an ordinary practitioner in a small village, or becoming a leader in some special department of the profession.

The next suggestion I offer is, *to give as much attention as possible to clinical instruction.* I can scarcely hope in the short space into which I must crowd my remarks to be able fully impress upon you the importance of the facilities offered to you for becoming familiar with bedside practice. It can hardly be exaggeration to say that a single case, thoroughly explained and commented upon by a competent clinical instructor, advances a student further in diagnosis and treatment, than a hundred others seen in ordinary practice without an experienced guide to demonstrate its features. An experienced teacher, whether in the surgical or clinical wards of a hospital, will in the clinical lectures of a single session comprise in a nutshell the experience of a long life of practice, and that with a minuteness of detail and accuracy of demonstration which impresses the subject in a manner never to be forgotten. The well earned reputation of the men connected with prominent medical schools attracts to them the most serious and important cases which are only occasionally found in a limited business, but when occurring and well or ill treated go far to establish or depress the standing of every general practitioner.

In your clinical studies let me impress upon you the importance of acquiring a habit of minuteness in the examination of symptoms and in making comparison between the signs of healthy and diseased conditions of functions. First familiarize yourselves with the normal states of organs and the normal performance of functions, by examining the pulse, tongue, breathing, sounds of the lungs and heart, etc., of each other, or of those presumed to be in good health, then in the hospital wards endeavor to ascertain the aberrations in the symptoms or physical signs which mark the presence of disease. Never feel satisfied with the dictation of your preceptor that things are thus and so, but try and perceive for yourself and record upon your memory the signs or symptoms with all their normal and abnormal associations, comparisons, and indications. Then, when you have returned from your clinical lecture make copious notes of the lecture and of your own observations. If you have access to a library, study out in detail all you can find bearing directly or remotely upon the case in hand. In your notes make references to all the authorities upon the subject which you can find, and, as often as may be, make out a full report of the case as if for publication. Submit your notes freely to the criticism of those who have more experience than yourself in observation and in writing, and are willing to correct them, and thus you will gain the habit of making up notes of cases, and obtain a facility of composition and correctness of expression which will be invaluable to you in after life, and go far to assist in effecting your reputation with the profession at large.

There is many a physician whose extensive practice and unusual experience would, if published, make for him a high reputation at home and abroad, who remains in obscurity, and whose results are lost to science, in consequence of his want of facility in writing and his indisposition to commit his ideas to paper.

Another hint—*Never lose the opportunity to be present at and assist in a post-mortem examination.* No one of the sources of information is more neglected by the profession at

large than this, the only means of attaining exact knowledge of pathological conditions, and of confirming or disproving the significance of physical signs and symptoms of disease. Investigation in this mode is almost exclusively confined to the physicians and surgeons of hospitals, or the teachers in schools of medicine, when invaluable opportunities are constantly occurring, in private practice, which, if properly improved, would do much to increase our knowledge and advance the reputation of the fortunate investigator. One reason for this neglect, I cannot but think, is due to the fact that comparatively few general practitioners know how properly to conduct a post-mortem examination; or, if made, are able to place a proper comparative estimate upon the indications of disease or abrasions from the healthful appearance of organs. It is during your dissections that you are to take your first lessons in this direction. Let no opportunity pass to observe and record upon the tablet of memory, the comparative appearances of diseased and healthy structures, and to become familiar with the symptoms corresponding to the cadaveric appearances. Every advance in a direction not common to the mass of your compeers, gives you an advantage over them in the struggle for position, and widens the distance between you and the empiric, by whom all such exact and critical knowledge, and all scientific inductions thence derived, are not merely neglected, but derided.

But, gentlemen, I will not longer detain you with advice, which is apt, like legislation, to fail of its effect if there is too much of it. I will only detain you, in conclusion, to inquire as to the objects you propose and the aims you have set before you to attain in your selection of the medical profession. If wealth be your object—if you have taken up the study of the profession *merely as a business* by which you expect to attain a fortune in a short period—I fear you have made an egregious mistake. No profession is in general so badly paid for the amount of study required for its attainment, for the mental toil and responsibility incurred, or the physical labor and exposure entailed in its pursuit. The number of its votaries which ever make more than a respectable competency as the

legitimate results of their practice is small. The mass of physicians, who have ever become wealthy, have made their fortunes by other modes. Only those who attain the summit of fame and ambition, as the leading surgeons or physicians of large and wealthy cities, can boast of wealth fairly attained in the practice of the profession.

Obviously then to attain this, if it alone be your object, the only sure and direct path is that which will most surely lead to the highest eminence as a professional man. It is, however, to be hoped that a large proportion, if not all of you, are influenced by higher motives; that for you, the wholesale charge, so often made, is false, "that in America the 'Almighty Dollar' is the only deity that is sincerely worshipped;" that you have embraced the medical profession as one which will give scope to the cultivation of the highest intellectual faculties and to the most enlarged benevolence, and which may lead to an enviable position in society, to be attained by merit and by merit alone. If these be the sentiments which animate you, if you work and toil unceasingly with enlarged minds and ardent impulses after the true and the good, not turned aside by the lures and charms of political ambition, or rapidly acquired wealth, there is hope that you may attain all and more than all that you seek or anticipate.

"So live, that when the summons comes to join
The innumerable caravan, that moves
To that mysterious realm, where each shall take
His chambers in the silent halls of death,
Thou go not like the quarry-slave at night,
Scourged to his dungeon; but sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams."

—*Bryant's Thanatopsis.*

BOOK NOTICES.

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On Obscure Diseases of the Brain and Disorders of the Mind; Their Incipient Symptoms, Pathology, Diagnosis, Treatment, and Prophylaxis. By Forbes Winslow, M. D. Blanchard and Lea, Philadelphia; 1860. For sale by Wm. Keen, No. 148 Lake Street, Chicago, Ill.

The announcement of Forbes Winslow as the author of a work on the subject, is a sufficient guarantee of its excellence; for, as relates to cerebral disorders, he has obtained an undisputed place among the best writers of the present day. An idea of the scope and design of this work may be gathered from the following extract from the preface: "This work was originally intended as an introductory chapter to a treatise I have for some time been preparing for publication, on 'Softening, and other types of Organic Disease of the Brain.' In consequence of the great and unexpected length to which the contemplated prefatory essay extended, it occurred to me that it would be more consistent with a scientific analysis of the subject, to continue my researches, and publish them in a distinct and separate volume, 'On the Incipient Symptoms of Obscure Diseases of the Brain, and Disorders of the Mind,' as *avant courier*, or introduction to the work which is exclusively to relate to the specific types of encephalic disease. Such, briefly, is the origin of the present treatise." It is safe to affirm, that cerebral diseases, whether physical or mental, are not so readily recognized or well understood as they might be with suitable attention, and the degree of influence that maladies of the mind exert over the body, or on the other hand that diseases of the body have upon the mind are not to their full extent realized, and whoever labors to direct attention to these points, or by his own observations helps to elucidate them, merits the thanks not only of the profession, but of the race. We have neither time nor space for an extended review of the work, and will only add, that any thoughtful physician who will procure and thoroughly read the book, cannot fail to find himself amply rewarded.

AN ELEMENTARY TREATISE ON HUMAN ANATOMY. By JOSEPH LEIDY, M. D., Professor of Anatomy in the University of Pennsylvania, etc. With 392 Illustrations. J. B. Lippincott & Co., Philadelphia. For sale by S. C. Griggs & Co., 39 and 41 Lake Street, Chicago, Ill.

The author in his preface says: "The present work is intended as an elementary treatise on human anatomy, and is not an elaborate system adapted to the use of those who have already advanced in anatomical knowledge. The author has attempted to prepare such a book as he feels would have been of service to himself in the commencement of his studies, and he hopes it may be found worthy of the approbation of students, for whom, and by whose frequent solicitation, it was written.". The work contains more than six hundred octavo pages, both type and paper being of a superior quality. The illustrations are well selected as to their anatomical interest, and their artistic execution is extremely good. The heads of subjects are set in heavy type so as readily to catch the eye, which renders it a more pleasant work of reference. The anatomical names of parts are accented in such a manner as to enable the student to give them their proper pronunciation, a point upon which even our medical dictionaries are extremely imperfect.

THE POCKET ANATOMIST. Being a complete description of the Anatomy of the Human Body. For the use of Students. By M. W. HILLES. Published by Lindsay & Blakiston, Philadelphia, 1860. For sale by S. C. Griggs & Co.

This book, as its name implies, is a condensed compendium of human anatomy, and is designed especially as a work of convenient reference for students while pursuing their anatomical studies, and it seem well adapted to the purpose for which it has been issued.

PROCEEDINGS OF THE DE WITT COUNTY MEDICAL SOCIETY.

REPORTED BY C. GOODBRAKE, M. D., SECRETARY.

The Society met in semi-annual session, at the office of Drs. Wright and Davis, in Wapella, on Tuesday the 2d day of October, 1860. Dr. John Wright in the chair.

The minutes of the previous meeting were read and adopted.

Dr. Thomas W. Davis, who had previously passed the Board of Censors, was, on motion of Dr. Goodbrake, duly elected a member of the society.

Dr. Wright reported a case of wounded knee-joint. The patient, a man about forty-five years of age, had received a small wound with a knife, such as is used for cutting up corn, immediately below the patella on the inner side of the knee. The joint swelled very rapidly and became extremely painful. The case was treated with warm fomentations to the knee; quinine, opium and calomel were administered internally. The case was progressing to a favorable result.

Dr. Davis reported three cases of typhoid fever that came under his care, which presented some singular features. The patients, in the three cases, had all the usual symptoms of this disease: such as head-ache, lassitude, want of appetite, tongue coated with a whitish fur, very narrowly edged with red, bowels more or less tender, with a disposition to diarrhea, pulse from 95 to 110 per minute. These symptoms lasted two or three weeks; the patients all this time being able to go about the house, and what was remarkable, they became as emaciated during the period of their sickness, as others whom the doctor attended at the same time, and who became very low, so much so, as not to be able to turn themselves in the bed. The doctor's treatment consisted in tonics, animal broths, with opium and nitrate of silver, one quarter grain of each, every six hours, when considered necessary.

Dr. Goodbrake reported two cases of puerperal convulsions; both were primapara cases. The first was that of a woman,

30 years of age, the convulsions set in about the time the os tincae began to dilate. She was bled freely, chloroform was administered to control as much as possible, the convulsions. She was delivered by the aid of the forceps, of a living child, nine hours after the accession of the first convulsion. The woman died twenty-four hours after the delivery, in a comatose state.

The second case was that of a Mrs. I——, aged 17 years, of small stature, short neck, florid countenance, sanguine temperament. This patient was *not bled*; but chloroform was administered to control the convulsions. Ungt. belladonna was applied very freely to the mouth of the womb. She was delivered by the aid of instruments six hours from the time she had the first convulsion. The patient made a good recovery. The Dr. gave it as his experience, that a large percentage of puerperal convulsions occurred in primapara cases; also, that they took place about the time the os tincae commenced dilating, which was usually found rigid and unyielding, and was of the opinion that in all such cases the early and free application of belladonna might prevent these frightful convulsions. He said, that he believed he was warranted in saying, that in several cases where this horrible disease was threatening, he averted it by this treatment.

Cholera Infantum, the regular subject for discussion, was then taken up, when most of the gentlemen present expressed their views on the pathology and treatment of the disease.

Drs. W. W. Adams and T. K. Edmiston were appointed essayists.

On motion, the thanks of the Society were tendered to Drs. Wright and Davis and their ladies for the sumptuous dinner served up for the members at this session.

Typhoid Fever was chosen as the subject for discussion at the next meeting.

The Society then adjourned to meet in quarterly session at Marion on the first Tuesday in January, 1861.

THE GREAT MEDICAL SLANDER SUIT.

The jury empanelled in this noted case, which "dragged its slow length along" through some three or four week's trial, returned a verdict for the defendant.

Our readers are already in possession of the main facts. Mr. H. O. Stone was proved to have used language disparaging to the professional skill of Dr. Alexander Fisher, of this city, alleging malpractice and neglect on the part of the latter, in the obstetrical treatment of Mrs. Stone. At a period of some thirty-eight or forty days after the labor, *inversio uteri* was found to exist, and this proved the very *fons et origo mali* to all parties—the profession inclusive, the lawyers exclusive. As we understand, on the one hand, that a new trial is applied for; and, on the other, that the whole pleadings, testimony, rulings, arguments, &c., are to be put in print, we deem it proper to forbear present comment. Suffice it to say, never was a hapless jury so pelted with abstractions, hailed upon by technicalities, so hopelessly befogged by professional literature, or so astounded by professional wisdom, since the first doctor came into the first court. The dusty archives of medical history were exhumed, the corners of all the medical journals were ransacked; the dead lions were evoked, and the living came personally, or by written depositions of absolutely fabulous longitude, into the court. Legal acumen was exhausted in asking questions impossible of answer, or if answered having no conceivable relation to any case capable of being supposed, in this or any other sphere of human existence. Long may it be before we look upon the like again; and yet we could almost be tempted to listen once more, could we again have the pleasure of listening to such a model medical witness as Prof. White, of Buffalo, upon the stand proved himself to be. However one agreed or disagreed with the opinions he advanced, all coincide in awarding him high praise for his truly professional bearing; the clearness, precision, and force of his various replies, through two days and a half of pertinacious, if not always pertinent, questioning.

THE GAZETTE AND DR. HOLMES.

The American Medical Gazette has periodical spasms at the state of the profession. Many years ago, the apparent severity of these attacks used to awaken our serious apprehensions, but constant experience in its methods for the ten or dozen years of its existence, has materially lessened our sympathizing alarms. We venture to prophecy that it will even recover from its attack of—Oliver Wendell Holmes.

The *Gazette*, evidently not having read the article, in a late number of this journal, of which it complains, makes an amusing blunder in its last issue.

The Massachusetts Medical College having rescinded the unmanly and impotent resolution which it first prefixed to the Prof.'s "Currents and Counter Currents," we can conceive now that the address stands before the profession solely on its merits, subject to endorsement either as a whole, or, like any other creation of mind, in part. Truth and error are very apt to be somewhat intermixed in this mundane sphere —we have even believed them at times, *rari nantes in gurgite vasto*, equally perceptible on the pages of the *Gazette*. As we expressed total dissent from Dr. Holmes in the proposition which the *Gazette* especially lashes, perhaps it may be induced on reconsideration of the subject not to "have an attack" of Dr. Brainard, for the literary, critical or professional sins of his correspondent, A.

☞ The Transactions of the Illinois State Medical Society have at last come into being, after a lingering and tedious labor, from among the viscera of the *Examiner*. We have not yet had time to give the pamphlet a full reading, but it does strike us as singular that after such a prolonged gestation, the product shows either "arrest of development," or evisceration. The copies we have seen have omitted eight pages from the body of the report on Surgery. Comment is unneccessary. We shall read the balance at our leisure.

RUSH MEDICAL COLLEGE.

The friends of this institution will be gratified to hear of its continued high prosperity. During the present session it numbers a much larger class than at any previous one since its organization. This is true both with reference to the list of under-graduates and of practitioners in attendance.

A contemporary journal publishes, as an item of news, that *seventy-five* students were present at the opening of the course! If it had put the number at double this, it would have approximated the figure more closely. The next ensuing catalogue will exhibit the fact that the present large class of Rush Medical College is composed of *bona fide* medical students, and not, as in at least one instance we wot of, of *invited* hearers from the classes of the various *Theological Seminaries*, and employees of every variety in the crafts and trades of the town and suburbs, almost "compelled to come in," to inflate an *unpublished*, because barren, catalogue.

It is barely possible that the spirit of petty spleen, which prompted the item alluded to above, may, if persistently manifested, secure a ventilation of the facts, which it were well for that writer to avoid—at least until after the next June meeting of the National Medical Association.

The Faculty of the College have devoted their best energies and most unsparing industry to the work of developing the institution to a degree suitably commensurate with the field it occupies, and are already cheered and encouraged by the marked evidences of general professional confidence and support which they are receiving from the great North-West. The elements of opposition, which some time since awakened the apprehension of the distant *alumni* of the College, have already, in effect, disappeared, and a career of high usefulness and honor seems cloudless in the future.

Sectionalism.—The Medical Department of the University of Louisiana having wisely made selection of Prof. Lawson, of Cincinnati, to fill one of its most important chairs, and Prof. Flint, of Buffalo, having previously filled a similar position in that city, the *Oglethorpe Medical and Surgical Journal* is indignant. It says: "The insinuation that "Northern Professors" are even the equal of Southern Professors in teaching 'practical medicine' is wholly gratuitous and not sustained by reliable evidence." In short, "it is very tolerable and not to be endured." Again, it says: "We stand as little in need of Northern medical men at the South, as we do of wooden nutmegs or of Northern politicians." We confess a little surprise at this attempt to make medicine a "local institution." We admit that we shall have to re-read the books before we can be led to believe that science is other than cosmopolitan. Is the attraction of gravitation reversed "down South?"

Remarkable Controversy—That which is going on, in the Cincinnati *Lancet and Observer*, between Prof. John H. Tate, of the College of Medicine and Surgery, and B. F. Richardson, M. D. ("Layman"). The closing paragraph of Dr. R.'s article, in the December number, ought to send one of the parties *out of* the profession and *into* the penitentiary according to the truth or falsity of the insinuation contained.

Medical Department, Lind University.—We understand from the best sources of information accessible to us, that the number of undergraduate *Medical* students in attendance upon the present session of this institution is not far from fifteen.